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Clemens Schwab

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EXAMINER

ONEILL, KARIE AMBER

ART UNIT

PAPER NUMBER

1795

MAIL DATE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/578,461	Applicant(s) SCHWAB, CLEMENS	
	Examiner Karie O'Neill	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The Applicant's amendment filed on December 15, 2008, was received. Claims 5 and 7 have been amended. Claims 1-4 have been cancelled. Claims 9-14 have been added as new. Therefore, Claims 5-14 are pending in this office action.

Claim Rejections - 35 USC § 102

2. The rejection of Claims 5-8 under 35 U.S.C. 102(b) as being anticipated by Arnold et al. (US 6,195,999 B1) has been overcome based on the amendments to the claims.

3. The rejection of Claims 5 and 7 under 35 U.S.C. 102(b) as being anticipated by Kubo (EP 0989290 A2) has been overcome based on the amendments to the claims.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 5-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Honda et al. (JP 10-144333).

With regard to Claim 5, Honda et al. discloses a fuel cell system (1) for mobile use comprising: a fuel cell unit (2) for generating electrical energy and fuel cell waste

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products (paragraphs 0009-0011); a cooling circuit including assigned to the fuel cell unit and having a heat exchanger (51) downstream of the fuel cell unit (2); an adsorption accumulator (5) assigned to the fuel cell unit and forming a heat store adapted to release heat when adsorbing the fuel cell waste products, the adsorption accumulator being operatively thermally connected to the heat exchanger (51) (paragraphs 0012-0013); a first line connected to the fuel cell unit (2) discharging the fuel cell waste products from the fuel cell unit, running through pump (40); and a second line connecting the first line to the adsorption accumulator (5) for feeding the fuel cell waste products to the adsorption accumulator (5).

The phrases "for mobile use", "for generating electrical energy", and "for feeding the fuel cell waste products to the adsorption accumulator", are considered functional language which impart intended use to the structural limitations of the claim. Therefore, while the intended use language of the claim has been considered with regard to structure, it is not given patentable weight because it is directed to a process of use and not directed to the structural features of the product. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See MPEP 2111. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. See MPEP 2113. The prior art teaches the structural limitations of the claim, including the structural limitations required by the functional language.

With regard to Claim 6, Honda et al. discloses wherein the adsorption accumulator (5) includes a silica gel adsorbent material (52) (paragraph 0012).

With regard to Claim 7, Honda et al. discloses a method for operating a fuel cell system for mobile use, the fuel cell system(1) including a fuel cell unit (2) for generating electrical energy and fuel cell waste products (paragraphs 0009-0011), a cooling circuit assigned to the fuel cell unit (2) and having a heat exchanger (51) downstream of the fuel cell unit (2), an adsorption accumulator (5) assigned to the fuel cell unit (2) and forming a heat store adapted to release heat when adsorbing the fuel cell waste products, the adsorption accumulator (5) being operatively thermally connected to the heat exchanger (51) (paragraphs 0012-0013), a first line, running through pump (40), connected to the fuel cell unit (2) for discharging the fuel cell waste products from the fuel cell unit (2), and a second line connecting the first line to the adsorption accumulator (5) for feeding the fuel cell waste products to the adsorption accumulator, the method comprising: when the fuel cell system (2) is starting up, heating coolant in the cooling circuit via the heat exchanger (51) using heat stored in the adsorption accumulator (5), with the fuel cell waste products being fed to the adsorption accumulator (5) at the same time, the fuel cell waste products inherently including waste gas (paragraphs 0019-0020), and in normal operation, feeding heat to the adsorption accumulator (5) via the heat exchanger (51) with the coolant in the cooling circuit heated by the heat exchanger (25) of the fuel cell unit (2) being fed to the heat exchanger (51) (paragraph 0020).

With regard to Claim 8, Honda et al. discloses wherein the adsorption accumulator (5) includes a silica gel adsorbent material (52) (paragraph 0012).

With regard to Claim 9, Honda et al. discloses the fuel cell waste products inherently include water vapor and the adsorption accumulator (5) is adapted to produce thermal energy by bonding the water vapor (paragraph 0012). The phrase “adapted to produce thermal energy by bonding the water vapor”, is considered functional language and imparts intended use to the structural features of the claim. The prior art teaches the structural limitations of the claim, including the structural limitations required by the functional language.

With regard to Claim 10, Honda et al. discloses wherein the heat exchanger (51) is adapted to transfer the thermal energy produced by the adsorption accumulator (5) from the adsorption accumulator (5) to the cooling circuit (paragraph 0012). The phrase “adapted to transfer the thermal energy produced by the adsorption accumulator from the adsorption accumulator to the cooling circuit”, is considered functional language and imparts intended use to the structural features of the claim. The prior art teaches the structural limitations of the claim, including the structural limitations required by the functional language.

With regard to Claim 11, Honda et al. discloses wherein the cooling circuit is adapted to transfer the thermal energy produced by the adsorption accumulator (5) to the fuel cell (2) to facilitate a cold start of the fuel cell (paragraph 0019). The phrase “adapted to transfer the thermal energy produced by the adsorption accumulator to the fuel cell to facilitate a cold start of the fuel cell”, is considered functional language and

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imparts intended use to the structural features of the claim. The prior art teaches the structural limitations of the claim, including the structural limitations required by the functional language.

With regard to Claim 12, Honda et al. discloses an actuator (41) coupled between the fuel cell (2) and the adsorption accumulator (5), the actuator (41) being adapted to pass the fuel cell waste products from the first line to the second line during a cold start of the fuel cell system and to prevent the passage of the fuel cell waste products from the first line to the second line after the cold start (paragraph 0013). The phrase “adapted to pass the fuel cell waste products from the first line to the second line during a cold start of the fuel cell system and to prevent the passage of the fuel cell waste products from the first line to the second line after the cold start”, is considered functional language and imparts intended use to the structural features of the claim. The prior art teaches the structural limitations of the claim, including the structural limitations required by the functional language.

With regard to Claim 13, Honda et al. discloses a second actuator (42) located between the fuel cell (2) and the heat exchanger (51), the second actuator (42) adapted to pass coolant heated by the fuel cell (2) to the heat exchanger (51) to charge the adsorption accumulator (5) after the cold start (paragraph 0020). The phrase “adapted to pass coolant heated by the fuel cell to the heat exchanger to charge the adsorption accumulator after the cold start,” is considered functional language and imparts intended use to the structural features of the claim. The prior art teaches the structural

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limitations of the claim, including the structural limitations required by the functional language.

With regard to Claim 14, Honda et al. discloses wherein the actuator (41, 42) is a three-way valve (paragraph 0015).

Response to Arguments

6. Applicant's arguments with respect to claims 5-8 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karie O'Neill whose telephone number is (571)272-8614. The examiner can normally be reached on Monday through Friday from 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Ruthkosky/
Primary Examiner, Art Unit 1795

Karie O'Neill
Examiner
Art Unit 1795

KAO